WHAT IS CLAIMED IS:

1. A method for avoiding objects along a path programmed into a robot comprising the following steps in the order named:

    (a) establishing a field of view for an electronic imager of said robot along said path,

5   (b) obtaining object location information in said field of view,

    (c) deriving a population coded control signal from said object location information, and

    (d) transmitting said control signal to said robot, thereby allowing said robot to avoid said object.

2. The method of Claim 1 where deriving said population coded control signal comprises the following steps in the order named:

    (a) processing a population coded motion energy algorithm that decomposes a video stream of said object location information into spatial and temporal frequency components,

    (b) processing a population coded velocity algorithm that recombines said spatial and temporal frequency components corresponding to said object and provides a velocity output, thereby identifying how said object is moving in said field of view,

10   (c) processing a population coded rotation algorithm that determines if said electronic imager is turning and provides a turning information output,

(d)   processing a population coded translation algorithm that transforms said velocity output of said velocity algorithm into a speed signal and calculates a distance between said object and said electronic imager providing a strategic control vector and a tactical control vector, and

(e)   processing a population coded navigation algorithm where said strategic control vector, said tactical control vector, and said turning information output are used to derive said population coded control signal.

3.   A method for deriving a distance from an object to an electronic imager comprising the following steps in the order named:

(a)   establishing a field of view for said electronic imager,

(b)   obtaining object location information in said field of view,

(c)   deriving said distance from said object to said electronic imager by processing a population coded set of algorithms.

4.   The method of claim 3 where processing said population coded set of algorithms comprises the following steps in the order named:

(a)   processing a population coded motion energy algorithm that decomposes a video stream of said object location information into spatial and temporal frequency components,

(b)   processing a population coded velocity algorithm that recombines said spatial and temporal frequency components corresponding to said object and provides a velocity output, thereby identifying how said object is moving in said field of view, and

10   (c)   processing a population coded translation algorithm that transforms said velocity output of said velocity algorithm into a speed signal and calculates said distance between said object and said electronic imager.